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Amendment under 37 C.F.R. § 1.111
U.S. Application No. 10/615,396

Attorney Docket No. Q76368

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): An active type display panel comprising a plurality of data lines, a plurality of scan lines mutually intersecting said plurality of data lines, a plurality of pixel sections each including which are formed at respective intersection points of the data lines and the scan lines and each include a series circuit in which a light emitting element and a drive element which supplies a drive current to said light emitting element are connected in series, and a pair of power supply lines which connect the series circuits of said plurality of pixel sections in parallel; ~~and a plurality of measurement lines;~~

wherein each of said plurality of pixel sections ~~includes~~ further comprises a switch element ~~which is provided between~~ of which one end is connected to a point connecting said light emitting element and said drive element, and ~~one measurement line of said plurality of measurement lines~~ a pixel controller which activates said drive element in accordance with an input signal on a corresponding data line during a scanning period to supply a drive current of a level corresponding to the input signal to said light emitting element, and

wherein said display panel further comprises for each of the data lines:

a switching portion which supplies a reference current to the light emitting element through said switch element during a first time period of the scanning period and halts the supply of said reference current in a second time period which remains in the scanning period to permit the activation of the drive element;

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a holding portion which holds a voltage across the terminals of said light emitting element through said switch element during said first time period;

a comparator which generates, during the second time period, a correction voltage corresponding to the difference between the voltage held in the holding portion and the voltage across the terminals of said light emitting element;

and

an outputting portion which supplies the correction voltage to the corresponding data line during said second time period.

2. (currently amended): A display panel according to claim 1 further comprises a plurality of data lines, and a plurality of scan lines, and

~~each of said plurality of pixel sections comprises:~~ a plurality of measurement lines of which the number is equal to the number of said data lines,

wherein said drive element is a first field effect transistor ~~which is provided as said drive element~~ and of which the source is connected to one line of the pair of power supply lines;

wherein said pixel controller comprises:

a second field effect transistor, of which the gate is connected to one scan line of said plurality of scan lines, the source is connected to one data line of said plurality of data lines, and the drain is connected to the gate of said first field effect transistor; and

a capacitor connected between one line of the pair of power supply lines, and a line connecting the gate of said first field effect transistor and the drain of said second field effect transistor;

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wherein said light emitting element is an organic electroluminescence element
~~which is provided as said light emitting element~~ and of which the anode is connected to the drain
of said first field effect transistor and the cathode is connected to the other line of the pair of
power supply lines; and

wherein said switch element is a third field effect transistor ~~which is provided as~~
~~said switch element~~ and of which the gate is connected to the one scan line, the source is
connected to the one measurement line of said plurality of measurement lines to supply a
reference current to the light emitting element by said switching portion and to provide the
voltage across the terminals of said light emitting element to said holding portion and said
comparator, and the drain is connected to a line connecting the drain of said first field effect
transistor and the anode of said organic electroluminescence element.

3. (currently amended): A display device comprising:

an active type display panel comprising a plurality of data lines, a plurality of
scan lines mutually intersecting said plurality of data lines, and a plurality of pixel sections each
including a series circuit in which a light emitting element and a drive element which supplies a
drive current to said light emitting element are connected in series, and which is connected
between one of said plurality of data lines and one of said plurality of scan lines at an
intersection thereof;

a power voltage supply portion which applies a power voltage to said series
circuit of each of said pixel sections; and

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a display controller which designates one scan line of said plurality of scan lines sequentially with predetermined timing in accordance with an input image signal, supplies a scan pulse to the designated one scan line, and supplies a data signal indicating light emission luminance to at least one data line of said plurality of data lines in a scanning period during which the scan pulse is supplied, the at least one data line corresponding to at least one light emitting element to be emitted light on the designated one scan line,

~~wherein each of said pixel sections includes a pixel controller which activates said drive element in accordance with the data signal to supply a drive current of a level corresponding to the data signal to said light emitting element, and a voltage detector which detects a voltage across the terminals of said light emitting element; and~~

~~—said display controller includes a data correction portion which corrects the data signal such that the voltage across the terminals of said light emitting element becomes equal to a predetermined voltage for each of said plurality of data lines~~

wherein each of said plurality of pixel sections includes a switch element of which one end is connected to a point connecting said light emitting element and said drive element, and a pixel controller which activates said drive element response to the data signal on a corresponding data line during a scanning period to supply a drive current of a level corresponding to the data signal to said light emitting element,

wherein said display panel further comprises for each of a plurality of data lines:

a switching portion supplies a reference current to the light emitting element through said switch element during a first time period in the scanning period and halts the supply of said

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reference current in a second time period in the scanning period to permit the activation of the drive element;

a holding portion which holds a voltage across the terminals of said light emitting element through said switch element during said first time period;

a comparator which generates, during the second time period, a correction voltage corresponding to the difference between the voltage held in the holding portion and the voltage across the terminals of said light emitting element; and

an outputting portion which supplies the correction voltage to the corresponding data line during said second time period.

4. (currently amended): A display device according to claim 3, wherein said display panel further comprises a plurality of measurement lines,

wherein said drive element consists of a first field effect transistor of which the source is connected to the positive output terminal of said power voltage supply portion, and

wherein said pixel controller comprises:

a second field effect transistor of which the gate is connected to the scan line for a corresponding column of said plurality of scan lines, the source is connected to the data line for a corresponding row of said plurality of data lines, and the drain is connected to the gate of said first field effect transistor;

a first capacitor connected between the positive output terminal of said power voltage supply portion, and a line connecting the gate of said first field effect transistor and the drain of said second field effect transistor;

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an organic electroluminescence element which is provided as said light emitting element and of which the anode is connected to the drain of said first field effect transistor and the cathode is connected to the negative output terminal of said power voltage supply portion; and

a third field effect transistor which is provided as said voltage detector and of which the gate is connected to the scan line for the corresponding column, the source is connected to the measurement line for the corresponding row of said plurality of measurement lines, and the drain is connected to a line connecting the drain of said first field effect transistor and the anode of said organic electroluminescence element,

wherein the voltage across the terminals of said light emitting element is supplied to said data correction portion as an anode voltage of said organic electroluminescence element through the drain and source of said third field effect transistor and the measurement line for the corresponding row,

and wherein each of said pixel sections includes a current generation circuit for generating a reference current of a level corresponding to the data signal; and wherein said switching portion halts activation of said drive element by said pixel controller by supplying the reference current in the first time period appearing first in the scanning period during which the scan pulse is supplied, to said organic electroluminescence element through the measurement line for the corresponding row and through the source and drain of said third field effect transistor, and for permitting activation of said drive element by said pixel controller by halting the supply of the reference current to said organic electroluminescence element in the second time period which remains in the scanning period.

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5. (canceled).

6. (currently amended): A display device according to claim ~~5~~ 4, wherein ~~said switching portion supplies~~ said display panel further comprises for each of a plurality of data lines another switching portion which supplies a voltage required for halting activation of said drive element by said pixel controller, to the source of said second field effect transistor during the first time period.

7. (original): A display device according to claim 6, where the voltage required for halting the activation of said drive element is a voltage equal to the power voltage.

8. (canceled).

9. (currently amended): A driving method for an active type display panel comprising a plurality of data lines, a plurality of scan lines mutually intersecting said plurality of data lines, and a plurality of pixel sections each including a series circuit in which a light emitting element and a drive element for supplying a drive current to said light emitting element are connected in series, and which is connected between one of said plurality of data lines and one of said plurality of scan lines at an intersection thereof, comprising the steps of:

applying a power voltage to said series circuit of each of said pixel sections;

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designating one scan line of said plurality of scan lines sequentially with predetermined timing in accordance with an input image signal, supplying a scan pulse to the designated one scan line, and supplying a data signal indicating light emission luminance to at least one data line of said plurality of data lines in a scanning period during which the scan pulse is supplied, the at least one data line corresponding to at least one light emitting element to be emitted light on the designated one scan line;

~~in each of said pixel sections, activating said drive element in accordance with the data signal to supply a drive current of a level corresponding to the data signal to said light emitting element, and detecting a voltage across the terminals of said light emitting element; and~~

~~correcting the data signal such that the voltage across the terminals of said light emitting element becomes equal to a predetermined voltage for each of said plurality of data lines~~

wherein said driving method further comprises the steps of in each of said pixel sections:

supplying a reference current to the light emitting element through said switch element during a first time period in the scanning period and halting the supply of said reference current in a second time period in the scanning period to permit the activation of the drive element;

holding a voltage across the terminals of said light emitting element through said switch element during said first time period;

generating, during the second time period, a correction voltage corresponding to the difference between the voltage held in the holding step and the voltage across the terminals of said light emitting element; and

supplying the correction voltage to the corresponding data line.